Application No.: 10/576,921

Office Action Dated: August 31, 2010

Supplemental Amendment Dated: December 14, 2010

## **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

## **Listing of Claims:**

Claims 1-23 (Cancelled).

Claim 24 (Previously Presented): An active compound formulation comprising

- a) at least one active compound chosen from the group of plant protection active compounds
- b) at least one random radical copolymer formed from the monomers i), ii) and optionally additional monomers, in which
- i) is at least one olefinically unsaturated sulfonic acid of the formula I

$$R^{2} + C - \int_{n} SO_{3}H$$

$$O \qquad R^{1}$$

$$I$$

in which

n is 0 to 10

X is O or  $NR^5$ 

R<sup>1</sup> is hydrogen or methyl

 $R^2$ ,  $R^3$  are, independently of one another, hydrogen or  $C_1$ - $C_6$ -alkyl

R<sup>5</sup> is hydrogen, alkyl, aryl, alkylaryl, arylalkyl, alkoxyalkyl, aryloxyalkyl, alkoxyaryl, hydroxyalkyl, (di)alkylaminoalkyl, (di)alkylaminoaryl, (di)arylaminoalkyl, alkylarylaminoalkyl, or alkylarylaminoaryl, it being possible for the aryl radicals to be substituted,

or salts thereof or mixtures of acid and salts, and

ii) is at least one olefinically unsaturated monomer of the formula II

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$$H_2C=CR^4$$
II

in which

Y is O or NR<sup>5</sup>,

R<sup>4</sup> is hydrogen or methyl,

R<sup>5</sup>, R<sup>6</sup> are hydrogen, alkyl, aryl, alkylaryl, arylalkyl, alkoxyalkyl, aryloxyalkyl, alkoxyaryl, hydroxyalkyl, (di)alkylaminoalkyl, (di)alkylaminoaryl, (di)arylaminoalkyl, alkylarylaminoalkyl or alkylarylaminoaryl, it being possible for the aryl radicals to be substituted,

in which at least one olefinically unsaturated monomer ii) corresponds to the formula IIb,

$$H_2C = C$$
 $O = C$ 
 $O = R^6$ 
IIb

in which R<sup>6</sup> is alkyl, aryl, alkylaryl, arylalkyl, alkoxyalkyl, aryloxyalkyl, alkoxyaryl, hydroxyalkyl, (di)alkylaminoalkyl, (di)alkylaminoaryl, (di)arylaminoalkyl, alkylarylaminoalkyl, alkylarylaminoaryl, it being possible for the aryl radicals to be substituted, and

c) optionally additional additives, wherein the active compound has a solubility in water of less than 1000 mg/L at a temperature of  $20 \, ^{\circ}\text{C}$ .

Claim 25 (Previously Presented): The active compound formulation according to claim 24, wherein the at least one random radical copolymer is formed from

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- i) at least one olefinically unsaturated sulfonic acid of the formula I according to claim 24 or salts thereof or mixtures of acid and salts,
- ii) phenoxyethyl acrylate,
- iii) optionally additional olefinically unsaturated monomers of the formula IIb

$$H_2C=CR^{10}$$
IIb

in which

Y

is O or NR<sup>5</sup>,

 $R^{10}$ 

is hydrogen or methyl,

R<sup>5</sup>, R<sup>6</sup> are hydrogen, alkyl, aryl, alkylaryl, arylalkyl, alkoxyalkyl, aryloxyalkyl, alkoxyaryl, hydroxyalkyl, (di)alkylaminoalkyl, (di)alkylaminoaryl, (di)arylaminoalkyl, alkylarylaminoalkyl or alkylarylaminoaryl, it being possible for the aryl radicals to be substituted.

Claim 26 (Previously Presented): The active compound formulation according to claim 24, wherein the monomer i) is 2-acrylamido-2-methyl-1-propanesulfonic acid or a salt thereof or a mixture of acid and salt thereof.

Claim 27 (Previously Presented): The active compound formulation according to claim 24, wherein the at least one random radical copolymer is formed from

- i) 2-acrylamido-2-methyl-1-propanesulfonic acid or salts thereof or a mixture of acid and salt thereof
- ii) phenoxyethyl acrylate
- iii) at least one olefinically unsaturated monomer of the formula IIc

$$H_2C=CR^{10}$$
IIc

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in which

Y is O

 $R^{10}$ 

is hydrogen or methyl,

R<sup>6</sup> is hydrogen, alkyl, aryl, alkylaryl, arylalkyl, alkoxyalkyl, aryloxyalkyl, alkoxyaryl, hydroxyalkyl, (di)alkylaminoalkyl, (di)alkylaminoaryl, (di)arylaminoalkyl, alkylarylaminoalkyl or alkylarylaminoaryl, it being possible for the aryl radicals to be substituted.

Claim 28 (Previously Presented): The active compound formulation according to claim 24, wherein the at least one random radical copolymer is formed from

- i) 2-acrylamido-2-methyl-1-propanesulfonic acid or salts thereof or a mixture of acid and salt, and
- ii) phenoxyethyl acrylate.

Claim 29 (Previously Presented): The active compound formulation according to claim 24, wherein the proportion of the sulfonic acid or of a salt or of a mixture of acid and salt in the total weight of the copolymer is 10 to 90 percent by weight.

Claim 30 (Previously Presented): The active compound formulation according to claim 24, wherein the proportion of the sulfonic acid or of a salt thereof or of a mixture of acid and salt in the total weight of the copolymer is 30 to 70 percent by weight.

Claim 31 (Previously Presented): The active compound formulation according to claim 24, wherein the ratio of the proportion by weight of component a) to the proportion by weight of component b) ranges from 1:10 to 10:1.

Claim 32 (Previously Presented): The active compound formulation according to claim 24, wherein the ratio of the proportion by weight of component a) to the proportion by weight of component b) ranges from 1:4 to 4:1.

Claim 33 (Previously Presented): The active compound formulation according to claim 24, wherein the ratio of the proportion by weight of component a) to the proportion by weight of component b) ranges from 1:2 to 2:1.

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Claim 34 (Previously Presented): The active compound formulation according to claim 24, wherein the at least one active compound is chosen from the group of strobilurins.

Claim 35 (Previously Presented): The active compound formulation according to claim 34, wherein the at least one active compound is pyraclostrobin.

Claim 36 (Previously Presented): The active compound formulation according to claim 24, in solid form.

Claim 37 (Previously Presented): The active compound formulation according to claim 24, in the form of a fluid solution comprising, if appropriate, additional additives.

Claim 38 (Previously Presented): The active compound formulation according to claim 24, in the form of an aqueous dispersion comprising, if appropriate, additional additives.

Claim 39 (Previously Presented): The active compound formulation according to claim 38, wherein the average particle diameter of the active compound, determined by quasielastic light scattering, is less than 1 micrometer.

Claim 40 (Previously Presented): The active compound formulation according to claim 39, wherein the average particle diameter of the active compound, determined by quasielastic light scattering, is less than 300 nanometers.

Claim 41 (Previously Presented): The active compound formulation according to claim 40, wherein the average particle diameter of the active compound, determined by quasielastic light scattering, is less than 100 nanometers.

Claim 42 (Withdrawn – currently amended): A process for the preparation of aqueous dispersions, which comprises bringing an active compound formulation of claim 24 comprising

a) at least one active compound chosen from the group of fungicides

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— b) at least one random radical copolymer formed from the monomers i), ii) and optionally additional monomers, in which

i) is at least one olefinically unsaturated sulfonic acid of the formula I

$$\begin{array}{c}
R^{2} \\
R^{2} \\
 \end{array}$$

$$\begin{array}{c}
C \\
H_{2} \\
 \end{array}$$

$$\begin{array}{c}
R^{1} \\
 \end{array}$$

## in which

n is 0 to 10

X is O or NR<sup>5</sup>

R<sup>1</sup> is hydrogen or methyl

R<sup>2</sup>, R<sup>3</sup> are, independently of one another, hydrogen or C<sub>1</sub>-C<sub>6</sub>-alkyl

R<sup>5</sup> is hydrogen, alkyl, aryl, alkylaryl, arylalkyl, alkoxyalkyl, aryloxyalkyl, alkoxyaryl, hydroxyalkyl, (di)alkylaminoalkyl, (di)alkylaminoaryl, (di)arylaminoalkyl, alkylarylaminoalkyl, or alkylarylaminoaryl, it being possible for the aryl radicals to be substituted;

or salts thereof or mixtures of acid and salts, and

ii) is at least one olefinically unsaturated monomer of the formula II

$$\begin{array}{c}
H_2C = CR^4 \\
\hline
O Y - R^6
\end{array}$$

in which

Y is O or NR<sup>5</sup>,

R<sup>4</sup> is hydrogen or methyl,

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R<sup>5</sup>, R<sup>6</sup>—are hydrogen, alkyl, aryl, alkylaryl, arylalkyl, alkoxyalkyl, aryloxyalkyl, alkoxyaryl, hydroxyalkyl, (di)alkylaminoalkyl, (di)alkylaminoaryl, (di)arylaminoalkyl, alkylarylaminoalkyl, or alkylarylaminoaryl, it being possible for the aryl radicals to be substituted,

in which at least one olefinically unsaturated monomer ii) corresponds to the formula IIb,

$$\begin{array}{c|c}
H_2C = C \\
\hline
O O - R^6
\end{array}$$
IIb

in which R<sup>6</sup>— is alkyl, aryl, alkylaryl, arylalkyl, alkoxyalkyl, aryloxyalkyl, alkoxyaryl, hydroxyalkyl, (di)alkylaminoalkyl, (di)alkylaminoaryl, (di)arylaminoalkyl, alkylarylaminoalkyl, alkylarylaminoaryl, it being possible for the aryl radicals to be substituted,

-----c) optionally additional-additives,

and

if appropriate with addition of and optionally one or more additives, into contact with an aqueous system and conventionally dispersing.

Claim 43 (Withdrawn): The process according to claim 42 wherein the at least one active compound is pyraclostrobin.

Claim 44 (Withdrawn – currently amended): A process for the preparation of an active compound formulation of claim 24 comprising

- a) at least one active compound chosen from the group of fungicides plant protection active compounds
- b) at least one random radical copolymer formed from the monomers i), ii) and optionally additional monomers, in which
- i) is at least one olefinically unsaturated sulfonic acid of the formula I

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$$\begin{array}{c|c}
R^{3} \\
\hline
R^{2} & C \xrightarrow{}_{n} SO_{3}H \\
\hline
N & R^{1}
\end{array}$$

in which

n is 0 to 10

X is O or NR<sup>5</sup>

R<sup>1</sup>——is hydrogen or methyl

R<sup>2</sup>, R<sup>3</sup> are, independently of one another, hydrogen or C<sub>1</sub>-C<sub>6</sub>-alkyl

is hydrogen, alkyl, aryl, alkylaryl, arylalkyl, alkoxyalkyl, aryloxyalkyl, alkoxyaryl, hydroxyalkyl, (di)alkylaminoalkyl, (di)alkylaminoaryl, (di)arylaminoalkyl, alkylarylaminoalkyl, or alkylarylaminoaryl, it being possible for the aryl radicals to be substituted,

or salts thereof or mixtures of acid and salts, and

ii) is at least one olefinically unsaturated monomer of the formula II

$$\begin{array}{c|c}
H_2C = CR^4 \\
\hline
O Y - R^6
\end{array}$$

in which

Y is O or NR<sup>5</sup>,

R<sup>4</sup>——is hydrogen or methyl,

R<sup>5</sup>, R<sup>6</sup>— are hydrogen, alkyl, aryl, alkylaryl, arylalkyl, alkoxyalkyl, aryloxyalkyl, alkoxyaryl, hydroxyalkyl, (di)alkylaminoalkyl, (di)alkylaminoaryl, (di)arylaminoalkyl, alkylarylaminoalkyl, alkylarylaminoaryl, it being possible for the aryl radicals to be substituted,

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in which at least one olefinically unsaturated monomer ii) corresponds to the formula Hb,

$$H_2C = C$$

$$O = C$$

is alkyl, aryl, alkylaryl, arylalkyl, alkoxyalkyl, aryloxyalkyl, alkoxyaryl, hydroxyalkyl, (di)alkylaminoalkyl, (di)alkylaminoaryl, (di)arylaminoalkyl, alkylarylaminoalkyl or alkylarylaminoaryl, it being possible for the aryl radicals to be substituted,

and

optionally additional additives, which process comprises

dissolving the components a) and b) and if appropriate c), and optionally additional additives, separately from one another, in identical or different organic solvents and mixing the solutions with one another

or preparing a combined solution of the components a) and b) and if appropriate c), and optionally additional additives, by presenting one of the components dissolved in an organic solvent, adding the additional components and dissolving, and optionally subsequently removing the solvent in a conventional way to the greatest possible extent.

Claim 45 (Withdrawn): The process according to claim 44 wherein the at least one active compound is pyraclostrobin.

Claim 46 (Withdrawn – currently amended): A process for the preparation of an active compound formulation of claim 24 comprising

- at least one active compound chosen from the group of fungicides
- b) at least one random radical copolymer formed from the monomers i), ii) and optionally additional monomers, in which
- is at least one olefinically unsaturated sulfonic acid of the formula I

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$$\begin{array}{c}
R^{2} + C - \int_{n} SO_{3}H \\
X + H_{2}
\end{array}$$

in which

n is 0 to 10

X is O or NR<sup>5</sup>

R<sup>1</sup> is hydrogen or methyl

R<sup>2</sup>, R<sup>3</sup> are, independently of one another, hydrogen or C<sub>1</sub>-C<sub>6</sub>-alkyl

R<sup>5</sup> is hydrogen, alkyl, aryl, alkylaryl, arylalkyl, alkoxyalkyl, aryloxyalkyl, alkoxyaryl, hydroxyalkyl, (di)alkylaminoalkyl, (di)alkylaminoaryl, (di)arylaminoalkyl, alkylarylaminoalkyl, or alkylarylaminoaryl, it being possible for the aryl radicals to be substituted,

or salts thereof or mixtures of acid and salts, and

ii) is at least one olefinically unsaturated monomer of the formula II

$$\begin{array}{c|c}
H_2C = CR^4 \\
\hline
O Y - R^6
\end{array}$$

in which

Y is O or NR<sup>5</sup>,

R<sup>5</sup>, R<sup>6</sup>— are hydrogen, alkyl, aryl, alkylaryl, arylalkyl, alkoxyalkyl, aryloxyalkyl, alkoxyaryl, hydroxyalkyl, (di)alkylaminoalkyl, (di)alkylaminoaryl, (di)arylaminoalkyl, alkylarylaminoalkyl, alkylarylaminoaryl, it being possible for the aryl radicals to be substituted,

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— in which at least one olefinically unsaturated monomer ii) corresponds to the formula Hb,

$$H_2C = C$$

$$O - R^6$$

$$H_2C = C$$

$$H_2C = C$$

in which R<sup>6</sup>——is alkyl, aryl, alkylaryl, arylalkyl, alkoxyalkyl, aryloxyalkyl, alkoxyaryl, hydroxyalkyl, (di)alkylaminoalkyl, (di)alkylaminoaryl, (di)arylaminoalkyl, alkylarylaminoalkyl, alkylarylaminoaryl, it being possible for the aryl radicals to be substituted,

and

c) optionally additional additives,

which process comprises forming an aqueous solution of the component b), and optionally additional additives, dissolving the components a) and, if appropriate, c), and optionally additional additives, in one or more water-miscible organic solvents, mixing the solutions of the components with one another and obtaining the active compound formulation in dispersed form by introduction of energy, and optionally subsequently removing the solvents in the conventional way to the greatest possible extent.

Claim 47 (Withdrawn): The process according to claim 46 wherein the at least one active compound is pyraclostrobin.

Claim 48 (Withdrawn): A process for combating harmful fungi, which comprises treating the harmful fungi, their habitat or the plants, surfaces, materials or spaces to be kept free therefrom with an effective amount of a formulation according to claim 24.

Claim 49 (Previously Presented): An active compound formulation comprising pyraclostrobin obtained by a process for the preparation of aqueous dispersions which process comprises bringing the active compound formulation according to claim 24, wherein the at least one active compound is pyraclostrobin, if appropriate with addition of one or more additives, into contact with an aqueous system and conventionally dispersing, wherein

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the average particle diameter of the active compound, determined by quasielastic light scattering, is less than 1 micrometer.

Claim 50 (Previously Presented): The active compound formulation of claim 49 wherein the average particle diameter of the active compound, determined by quasielastic light scattering, is less than 300 nanometers.

Claim 51 (Previously Presented): The active compound formulation of claim 49 wherein the average particle diameter of the active compound, determined by quasielastic light scattering, is less than 100 nanometers.

Claim 52 (Previously Presented): An active compound formulation comprising pyraclostrobin obtained by a process for the preparation of an active compound formulation according to claim 24, wherein the at least one active compound is pyraclostrobin, which process comprises dissolving the components a) and b) and if appropriate c), and optionally additional additives, separately from one another, in identical or different organic solvents and mixing the solutions with one another or preparing a combined solution of the components a) and b) and if appropriate c), and optionally additional additives, by presenting one of the components dissolved in an organic solvent, adding the additional components and dissolving, and optionally subsequently removing the solvent to the greatest possible extent, wherein the average particle diameter of the active compound, determined by quasielastic light scattering, is less than 1 micrometer.

Claim 53 (Previously Presented): The active compound formulation of claim 52 wherein the average particle diameter of the active compound, determined by quasielastic light scattering, is less than 300 nanometers.

Claim 54 (Previously Presented): The active compound formulation of claim 52 wherein the average particle diameter of the active compound, determined by quasielastic light scattering, is less than 100 nanometers.

Claim 55 (Previously Presented): An active compound formulation comprising pyraclostrobin obtained by a process for the preparation of an active compound formulation

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according to claim 24, wherein the at least one active compound is pyraclostrobin, which process comprises forming an aqueous solution of the component b), and optionally additional additives, dissolving the components a) and, if appropriate, c), and optionally additional additives, in one or more water-miscible organic solvents, mixing the solutions of the components with one another and obtaining the active compound formulation in dispersed form by introduction of energy, and optionally subsequently removing the solvents to the greatest possible extent, wherein the average particle diameter of the active compound, determined by quasielastic light scattering, is less than 1 micrometer,

Claim 56 (Previously Presented): The active compound formulation of claim 55 wherein the average particle diameter, determined by quasielastic light scattering, is less than 300 nanometers.

Claim 57 (Previously Presented): The active compound formulation of claim 55 wherein the average particle diameter, determined by quasielastic light scattering, is less than 100 nanometers.